



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,326	04/22/2004	In-ho Yoon	45867	6782
1609	7590	08/11/2005	EXAMINER	
ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P. 1300 19TH STREET, N.W. SUITE 600 WASHINGTON,, DC 20036			ROBINSON, MARK A	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

(A)

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/829,326	YOON, IN-HO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mark A. Robinson	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-4, 6-9, 11-16 and 18 is/are rejected.  
 7) Claim(s) 5, 10 and 17 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 22 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

Art Unit: 2872

**DETAILED ACTION**

***Claim Objections***

1. Claims 4-6, 9-11 and 16-18 are objected to because of the following informalities: "the other direction" in claims 4, 9 and 16 is vague since only one direction was recited previously and there exist more than two directions (i.e. reciting "one direction" does not mean that there exists only one "other" direction). Appropriate correction is required. The examiner suggests changing "the other direction" to "a different direction."

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 6-9, 11, 15, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-268224 (hereinafter "Ricoh").

Art Unit: 2872

Ricoh shows a rotatable polygon mirror assembly including polygon mirror(52) and a fixing member(18) to substantially cover the upper surface of the mirror for fixing the same to the rotor assembly(6).

Ricoh further shows the fixing member to have a larger outer circumferential portion than the mirror (see fig. 1), to comprise a circular disc spring (see fig. 2) with a hole in the middle, an elastic piece (the portion between the hole and item 18b), a curved portion(18b) protruded in another direction so as to press the mirror, and a space between the outer portion of the spring(18) and the mirror(52).

Regarding claim 7, note that as Ricoh's fixing member(18) covers the mirror, it will provide a measure of protection from dirt-containing air.

The method limitations of claims 15,16 and 18 are inherent in the structure of Ricoh discussed above.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

Art Unit: 2872

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricoh in view of Miyamoto (US 6414777).

Ricoh further shows a sleeve-supported shaft(4), rotor frame(102) and magnet(20), but does not show a rotor case or printed circuit board. However, each of these elements is commonly found in polygon mirror assemblies and an example is shown by Miyamoto (see fig. 1 or 5A) as discussed by applicant in the background of the specification. It would have been obvious to use these elements with Ricoh's assembly in order to provide efficient means for or control over the movement of the mirror.

#### ***Allowable Subject Matter***

6. Claims 5,10 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or suggest a rotary polygon mirror assembly including the specific

Art Unit: 2872

configuration for the disc spring as set forth in the combination of claim 5,10 or 17.

**Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nemoto (JP 62-59917) and Sakai (JP 8-171065) each show fixing members which cover a polygon mirror. Nakasugi (JP 10-268226) and Choi (US 5644419) each show an elastic fixing member in a polygon mirror assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (571) 272-2319.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn, can be reached at (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval

Art Unit: 2872

(PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MR

8/9/05



MARK A. ROBINSON  
PRIMARY EXAMINER